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Human Territoriality: A Theory

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Abstract. Territoriality is a means of affecting (enhancing or impeding) interaction and extends the particulars of action by contact. Territoriality is defined here as the attempt to affect, influence, or control actions, interactions, or access by asserting and attempting to enforce control over a specific geographic area. A theory of territoriality is developed that contains ten potential consequences and fourteen primary combinations of consequences to territorial strategies. It is hypothesized that any instance of territoriality will draw from among these. Specific consequences and combinations are predicted to occur in particular social-historical contexts.

Key Words: territoriality, spatial analysis, power, control, accessibility.

HUMAN territoriality is a vast, yet often neglected, facet of human behavior. I propose to analyze territoriality by considering it to be a strategy for influence or control. I shall present a theory of the potential advantages that can come from the use of territoriality.

By human territoriality I mean the attempt to affect, influence, or control actions and interactions (of people, things, and relationships) by asserting and attempting to enforce control over a geographic area (Sack 1981). This definition applies whether such attempts are made by individuals or by groups, and it applies at any scale from the room to the international arena. This is not the usual definition of the term and is intended to include many facets of behavior often referred to by other concepts such as property in land (real estate), sovereignty, dominion, "turf," and "fixed personal space."

Like Dyson-Hudson and Alden-Smith (1978), I shall skirt the issue of whether human territoriality is a biological drive or instinct. Rather, I see it as a strategy for establishing differential access to things and people. Interactions or access can occur either territorially or nonterritorially. Nonterritorial interactions have been the primary focus of systematic spatial analysis. Yet these occur in causal relationship to numerous kinds and levels of territories. To ignore territoriality or simply to assume it as part of the context is to leave unexamined many of the forces molding human spatial organization. The area of geography that has most often sensed the significance of territoriality is political geography, but with some exceptions (Soja 1971, 1974) political geography has not yielded a sustained and systematic analysis of its role and function. I intend to show how a theory of the potential consequences of territoriality can help to make a spatial perspective of more direct use to the analysis of property, political sovereignty, and the territorial structure of organizations.

This paper is divided into three main sections. The first develops the theory and contains subsections on territoriality and spatial analysis, the definition of territoriality, hypotheses, tendencies, and combinations. The second is about tests and implications of the theory for large-scale social organizations, and the third is about the implications of the theory for individuals and informal groups.

Theory

Territoriality and Spatial Analysis

For x to affect, influence, or control y presupposes the transmission of energy between x and y, where x represents a person, group, or class doing the influencing or controlling, and y represents a person, group, class, or resource being influenced or controlled. The

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interaction must follow the principle of action by contact which is based on the law of conservation of energy (Hesse 1967; Sack 1973). That is, contact will be along a continuum from direct contact, which means touching, to degrees of indirect contact, from speaking face to face to transmitting information via electromagnetic waves. Forms of contact depend on technology and change historically.

Conventional spatial analysis has attempted to specify the relative spatial configurations that interacting objects possess and the importance of the configurations to the process. It encompasses a range from personal distances to spatial arrangements of cities and regions, and the flows of people, goods, and ideas among them (Sack 1980). But conventional spatial analysis has largely ignored territoriality. Territoriality is a means by which *x* can affect, influence, or control *y*. Territoriality is based on, and extends, the principles of action by contact (Sack 1973).

To illustrate the difference between territorial and nonterritorial actions, both of which are based on action by contact, let us suppose a parent is home minding the children. They are found in the study scribbling on note cards, upsetting piles of books, and ripping up manuscripts. The parent could have a face-to-face, heart-to-heart talk with the children, telling them not to touch these books, note cards, and manuscripts. The parent might even spank them. In either case, the parent is attempting to control the actions of the children directly by contact, and in a way that focuses on specific categories of things such as books, note cards, and manuscripts. The parent, *x*, is attempting nonterritorially to limit the children's (*y*) access to these resources.

But there is another alternative to the same goal. The parent could hope to control the actions of the children regarding books, manuscripts, and note cards without telling them not to touch just these kinds of things. This could be done by telling the children that they may not go into the study without permission, that the study is off limits. This is an example of territoriality because it is an attempt by *x* to limit the children's (*y*) access to things by asserting control over an area. Of course, asserting that the study is off limits, as well as enforcing the assertion, requires that the information be transmitted to the children and that their behavior be monitored. This, of course, requires contact and is nonterritorial, but territoriality, if it works, can avoid other nonterritorial contacts, in this case further admonitions by the parent of the children.

Definition of Territoriality

At this point let me define what I mean by territoriality explicitly: the attempt by an individual or group (*x*) to influence, affect, or control objects, people, and relationships (*y*) by delimiting and asserting control over a geographic area. This area is the territory. Please note:[1]

—This is not a usual definition of the term. (For its many meanings and uses see Altman 1970, 1975; Edney 1974; Esser 1970; Malmberg 1980; Soja 1971; Sommer 1969; Stokes 1974. But it is close in intention to the meaning given by Dyson-Hudson and Alden-Smith 1978.) The most common definition is defense of area. The individual is expected to be in the area he/she is to defend. Defending area is presented as a goal in itself or as a means to such specific ends as control of population density, control of food resources, or assertion of dominance.

—Territoriality is an extension of action by contact. It is a strategy to establish differential access to people, things, and relationships. Its alternative is always nonterritorial action.

—Geographic area can refer to either fixed or portable areas, and *x* does not have to be in the territory to assert control over it.

—Territoriality is built on or imbeded in nonterritoriality. Nonterritoriality is required to back up territoriality.

—Territoriality is not simply the circumscription of things in space. It is not equal to a region or area or territory in the old sense. It is circumscription with the intent to influence, affect, or control. A geographer's denoted region, e.g., the Corn Belt, is not a territory in our sense of the word, nor is the nodal region of central place theory. Neither case uses an assertion of control with the implication of sanctions for transgressions.

—There are degrees of territorializing. A maximum-security prison is more territorial than a half-way house, and a closed classroom is more territorial than an open one.

—There are numerous ways in which territoriality can be asserted, including legal rights to property in land and cultural norms and prohibitions about usage of areas.[2]

—Territoriality occurs at all scales, from the room to the nation-state. Territoriality is not an object but a relationship. A room may be a territory at one time and not at another.

—Territories most often occur hierarchically and are part of complex hierarchical organizations.

Although my example was of a room, the following discussion can apply to factories, nation-states, and other institutions.

—Considering territoriality a strategy for differential access avoids the issue of whether territoriality is an instinct.

—This definition cuts across prospectives and levels of analysis. It involves the perspectives of those controlled and those doing the controlling, whether they be groups or individuals.

The overriding assumption is that despite the inumerable kinds of territoriality and levels of hierarchies, forms of technology, and historical conditions and reasons for control, under certain conditions territoriality is a more effective means of establishing differential access to people, or resources, than is nonterritoriality for some or all of ten reasons. These ten reasons will be labeled potential reasons for, or causes of, territoriality, or potential consequences or effects of territoriality, depending on whether *x* is interested in establishing new territories or using already existing ones. (There is no hope of differentiating between a reason and a cause, or between a consequence or effect, without knowing the particular case. And even then there are many who argue that reasons are causes (Keat and Urry 1975). In any case, both reasons and causes would draw upon the same set of potentialities, the difference being in how these potentialities influence behavior. To avoid overusing a term I shall interchange reason with cause, and consequence with effect, and use the terms potentialities or tendencies to subsume all four.)

These ten reasons can apply either to relations between individuals in small and informal groups or to individuals in hierarchical organizations. Of particular importance is that they form fourteen primary combinations that pertain especially to territorial behavior in hierarchical organizations. Any instance of territoriality will draw from among the ten tendencies either singly or in the form of primary combinations, and certain kinds of social relations and hierarchical organizations can be expected to use specific tendencies and combinations.

A Preface to the Phrasing of the Tendencies and the Primary Combinations

To identify and elaborate the role of territoriality means that territoriality has to be conceptually separated and described apart from its numerous contexts. Identifying and analyzing the implications of territoriality in the abstract is somewhat analogus to the quest for the meaning of geographic distance in spatial analysis. One critical difference is that territoriality is always socially or humanly constructed whereas, physical distance is not. This means that territoriality does not exist unless there is a relationship *x* and *y* specified by our definition. But no relationship need exist between two objects in space for there to be a distance between them. Apart from comparing distances, there is little that can be said abstractly about their potentials to affect behavior. Their impacts depend on the contexts in which they are used. Substituting the physical measure of distance for the physically and socially significant channels of communication or interaction is to run the risk of treating distance nonrelationally (Sack 1973).

All territorial relationships are defined within a social context, albeit an extremely general one, of differential access to things and to people. Because of this, more can be said abstractly about territoriality than can be said about distance; and because of its social context, what is said can have normative implications. In presenting the tendencies, these normative implications will be held in abeyance as much as possible until the combinations are discussed. That is, the ten tendencies will be described "neutrally." The descriptions will not suggest that the use of territoriality is either good or bad. Yet negative or positive implications can be read into these neutral descriptions. Such connotations will, however, be addressed directly in the discussion of the primary combinations. Indeed, some of the combinations differ from one another only in the purposes to which the power or influence over territory are put or, in other words, in the degree to which the combinations draw upon benign or malevolent connotations. These normative terms are still intended to be very abstract and general. By a benign relationship it is meant that the differential access through territoriality favors both *x* and *y* and does not disadvantage *y*. In other words a benign relationship is nonexploitative. Such a context is approached at an individual level when a parent *x* uses territoriality to prevent a young child *y* from running into traffic, and at a group level when the workers

x or *y* of a democratically organized and controlled factory elect some of their members *x* or *y* to serve for terms as managers. A malevolent relationship occurs when differential access through territoriality benefits *x* at the expense of *y*.

Keeping the descriptions of the tendencies neutral and the normative meanings of the combinations general separates the expression of the theory of territoriality from particular theories of power and society. This allows territoriality an intellectual "space" of its own and prevents territoriality from becoming the captive of any particular ethical theory or theory of power. But the theory of territoriality needs to have its contexts specified. It addresses tendencies and potentials. By itself, it can not be very precise about which potentials or combinations will be put into action because it says little about who is influencing or controlling whom and for what purposes. It needs to be combined with or informed by descriptions of contexts or theories about power and influence. Formulating the theory of territoriality independently of particular theories of power makes it possible to match its tendencies and combinations to more than one specific theory of power and social organization. Such matchings can help specify more clearly the context under which certain potentials and combinations of territoriality can be expected to occur, and it can make clearer the territorial basis of theories of power.[3]

The Ten Tendencies of Territoriality

By definition, territoriality, as an assertion of control, is a conscious act, yet *x* need not be conscious of the ten potentials or tendencies for them to exist and to have effect. These tendencies of territoriality come to the fore given certain conditions. They are not independent of one another. In fact, the first three listed below—classification, communication and enforcement—can be considered logically (though not empirically) prior and the rest derivative. This is because the first three can be involved in the process in two ways. First, they are by definition essential attributes of any territory. That is, all examples of territoriality would contain them. They are necessary and sufficient attributes of territoriality, which follow from our definition of what we mean by the term. But second, these three potentialities may not be either necessary or sufficient reasons/causes for territoriality. That is, although territoriality must provide the potential for classification, communication, and enforcement, it could be "caused" by any one or several or all of the ten. Let us proceed in order from No. 1 to No. 10 and again be reminded that the terms used to describe them could fit either a benign, neutral, or malevolent social context.

1. Territoriality involves a form of *classification* that is extremely efficient under certain circumstances. Territoriality classifies at least in part by area, rather than by type. When we say that anything in this area or room is ours, or is off-limits to you, we are classifying or assigning things to a category such as "ours" or "not yours" according to their location in space. We need not stipulate the kinds of things in place that are ours or not yours. Thus territoriality avoids, to varying degrees, the need for enumeration and classification by kind and may be the only means of asserting control if we cannot enumerate all of the significant factors and relationships to which we have access. This is especially true in political affairs, where a part of the political is its concern with novel conditions and relationships.
2. Territoriality can be easy to *communicate* because it requires only one kind of marker or sign—the boundary. The territorial boundary may be the only symbolic form that combines direction in space and a statement about possession or exclusion. (Road signs and other directional signs do not indicate possession. Territoriality's simplicity for communication may be why it is often used by animals.)
3. Territoriality can be the most efficient strategy for *enforcing* control, if the distribution in space and time of the resources or things to be controlled fall somewhere between ubiquity and unpredictability. For instance, models of animal foraging have shown that territoriality is more efficient for animals when food is sufficiently abundant and

predictable in space and time whereas nonterritorial actions are more suitable for the converse situation. The same has been shown to hold in selected cases of human hunting and gathering societies (Dyson-Hudson and Alden-Smith 1978; Stokes 1974).

4. Territoriality provides a means of *reifying* power. Power and influence are not always as tangible as are streams and mountains, roads, and houses. Moreover, power and the like are often potentialities. Territoriality makes potentials explicit and real by making them "visible."
5. Territoriality can be used to *displace* attention from the relationship between controller and controlled to the territory, as when we say "it is the law of the *land*" or "you may not do this *here*". Legal and conventional assignments of behavior to territories are so complex and yet so important and well understood in the well-socialized individual that one often takes such assignments for granted and thus territory appears as the agent doing the controlling.
6. By classifying at least in part by area rather than by kind or type, territoriality helps make relationships *impersonal*. The modern city by and large is an impersonal community. The primary criterion for belonging is domicile within the territory. The prison and work place exhibit this impersonally in the context of a hierachy. A prison guard is responsible for a block of cells in which there are prisoners; the guard's domain as supervisor is defined territorially. The same is true of the foreman and the workers on the assembly line, and so on.
7. The interrelationships among the territorial units and the activities they enclose may be so complicated that it is virtually impossible to unpack all of the reasons for controlling the activities territorially. When this happens the territoriality appears as a general, *neutral*, essential means by which a place is made, or a space cleared and maintained, for things to exist. Societies make this *place-clearing function* explicit and permanent in the concept of property rights in land. The many controls over things distributed in space (as the interplay between preventing things without the territory having access to things within and things within having access to things without) become condensed to the view that things need space to exist. In fact, they do need space in the sense that they are located and take up area, but the need is territorial only when there are certain kinds of competition for things (in space). It is not competition for space that occurs but rather a competition for things and relationships in space.
8. Territoriality acts as a *container* or *mold* for the spatial properties of events. The influence and authority of a city, although spreading far and wide, is "legally" assigned to its political boundaries. The territory becomes the object to which other attributes are assigned, as in the case of the political territory being the unit receiving federal support.
9. When the things to be contained are not present, the territory is conceptually "empty." Territoriality in fact helps create the idea of a socially *empty space*. Take the parcel of vacant land in the city. It is an empty lot, though it is not physically empty for there may be grass and soil on it. It is empty because it is devoid of socially or economically valuable artifacts. In this respect, territoriality conceptuality separates space from things and then recombines them as an assignment of things to places and places to things. This assignment or recombination makes it appear as though there is a problem of which fact to place where, or of facts without places and places without facts.
10. Territoriality can help *engender more territoriality* and more relationships to mold. When there are more events than territories or when the events extend over greater areas than do the territories, new territories are generated for these events. Conversely, new events may need to be produced for new and empty territories.

These are brief descriptions of the ten consequences that we hypothesize could come

from the use of territorial organization and that would be drawn upon to explain the reasons for having territorial, as opposed to nonterritorial, activity. Once again, these tendencies are not independent and their precise number and definition is not as critical as the question of whether or not they contain the essential facets of territoriality. Not all of them need be used in any particular territorial instance in history, and (as mentioned) their meanings or imports would depend on the historical conditions of technology and who controls whom and for what purpose, i.e., their social context.

Primary Combinations

Most of human behavior occurs within hierarchies of territorial organizations (e.g., individuals live in cities, which are in states, which are in nations, etc.). Hence everything we said about territories applies, in addition, to hierarchical territorial organization. For example, acting as a mold (No. 8) in terms of a hierarchy of territories, as in the nation, the states, and the municipalities, could mean that a goal, such as 4 percent unemployment, can be described at one geographic level such as the national level, rather than at another, such as the local level. Hence we can have geographic precision at one scale and not at another. Or a more general case would be that territoriality, as a means of circumscribing knowledge and responsibility by limiting access to things as in Nos. 1 to 3 would be, in hierarchy, a series of levels of circumscription of knowledge and responsibility, with the lowest level and the smallest territory having the least knowledge, the highest having access to the most, by having access to the entire territory.

In this vein, and still without being specific about social contexts, we can procede to consider the possible *primary combinations* and general import of these tendencies within social hierarchies. Figure 1 is a matrix tracing the connections among the elementary tendencies (Nos. 1 to 10) and the primary combinations (*a* to *m*). The matrix shows only the important links. An ⊗ signifies that a potential is extremely important, and an *x* that it is important. The absence of an *x* means that the tendency is not important for that particular combination. It does not mean that it has no effect at all. (Note that whereas Nos. 1, 2, and 3 must be attributes of territoriality, they need not be important causes/consequences of territoriality. Their inclusion in the matrix is to indicate when they, as characteristics of territoriality, also become important causal consequences of territoriality.) Without linking territoriality to specific social contexts, we cannot be more precise about the degree to which each tendency contributes to a combination or whether the *x*'s can be called necessary and/or sufficient conditions. It should be noted that some combinations differ only in the connotations and weights placed on the tendencies.

a. Perhaps the most important and general combination is that all ten tendencies can be important components of complex and rigid hierarchies. Specifically, Nos. 1, 2, 3, 6, and 8 are important, for they can allow hierarchical circumscription of knowledge and responsibility, impersonal relationships, and strict channels of communication, all of which are essential components of bureaucracy (Scott 1981, 68).
b. Not only is the scope of knowledge graded according to levels, but so too would the scope of responsibility in space and time by enforcing (No. 3) and molding (No. 8) access to information. *Long-term planning* would be the responsibility of the highest level with access to the greatest scope in knowledge and *short-term planning* (or no planning at all) would be the responsibility of the lowest territorial level. Moreover, an action could be subdivided into parts, those having to do with policy and the initiation of an activity, and those having to do with the details of carrying it out. The former would pertain to the higher territorial levels, the latter to the lower levels.
c. Upper echelons of an hierarchy tend to use territories to define (No. 1), enforce (No. 3) and mold (No. 8) groups, with the result that members may be collected and dealt with impersonally (No. 6). It is this cluster (Nos. 1, 3, 6, and 8) to which the historical-anthropological literature points when it discusses the *territorial definition of social relationships*.

TENDENCIES: Multiplication of territories, 10	Conceptually empty space, 9	Mold, 8	Neutral space-clearing, 7	Impersonal relations, 6	Displacement, 5	Reification symbol, 4	Enforcement of access, 3	Communication, 2	Classification, 1	COMBINATIONS
	x		x			x	x	x		a, Hierarchy and bureaucracy
	x		x			Ⓧ	x	x		j, Divide and conquer
	x		x			x	x	x		n, Secession
	x		x			x		x		c, Territorial definition of social relations
	x					x		x		g, Mismatch and spillover
	x					x		x		k, Obfuscation by assigning wrong scale territory
x			x	Ⓧ						h, Territoriality, an end, not a means
x			x	Ⓧ						l, Social conflict obscured by territorial conflict-horizontal displ.
	x					x				b, Long and short range planning and stages
	x					x				m, Obfuscation by stages. Clear at nat. level, unclear at local
						x				d, Efficient supervision-span of control
						x				i, Inequalities
				x	x					f, Magic-representation becomes powerful in itself
x	x	x	x	x		x		x		e, Conceptual separation and recombination of space and substance

x Tendency is important

Ⓧ Tendency is extremely important

Figure 1. Internal relations of tendencies and combinations.

This is a relative concept and its opposite is a *social definition of territory*. The difference between them is a matter of degree.

An example of a territorial definition of social relations would be the U.S. requirement for becoming a voting member and thus a part of an American municipality. All one needs is to be a U.S. citizen over a certain age and a resident of the community. The community is defined territorially and the location within the territory is a necessary condition for belonging to the community. Laws enacted by the community apply within its territorial jurisdication. On the other hand, the rules about inheritance of private property in land would be an example of a social definition of territory. The legal heir of the deceased would come to own the land regardless of where geographically the heir is located. Every actual claim to territory may involve elements

of both, as when citizenship in American municipalities is given only to U.S. citizens. It has been observed that primitive societies tend to rely more on a social definition of territory whereas civilizations and especially modern societies do the opposite.

d. A significant yet simple combination is that the hierarchical territorial circumscription of knowledge and responsibility (No. 3) can provide a very efficient means of supervision. For example, constraining the movements of prisoners by placing them in cells makes easier the task of supervising them than if they were allowed to roam freely in the prison. Indeed, even the prison walls without cells are a more effective means of supervision than is a nonterritorial means of contact such as handcuffing a guard to each prisoner. An important index of the degree of supervisory efficiency would be the *span of control,* i.e., the number of supervisors per supervisees.

e. The combination of elements constituting a territorial definition of social relationships (Nos. 1, 3, 5, and 8) in conjunction with the concept of a neutral space-clearing device (No. 7) and conceptually empty space (No. 9) point to the oscillation, on a practical level, between continual filling and emptying a territorial mold and, on a conceptual level, of the repeated *separation and recombinations of space and substance* through time. Both levels suggest the contingent nature of the location of objects in territory. The combination is especially significant in modern society and may characterize the conception of territory most closely linked with modern modes of thought. Science and technology make practical the idea of repeatedly controlling, filling, and emptying vast territories; and, on a smaller scale, technology and working conditions produce purpose-built places such as factories that are territorial molds or containers for indefinitely varied economic activities or, when they are empty, for nothing at all. Consumer society makes change essential; geographically, change and the future are seen as sets of spatial configurations different from those that exist now or that existed in the past. (A place that has not changed its appearance has been bypassed by time; it has stood still.) Planning for change and thinking of the future involves imagining the separation and recombination of space and substances (e.g., city planning involves imagining a series of emptyings and fillings). Territoriality, through Nos. 1, 3, 5, 7, 8, and 9, serves as the device to keep space empty or to mold things together.

f. The combinations of reification (No. 4) and displacement (No. 5) could lead to a magical perspective. Reification through territory is a means of making authority visible. Displacement was defined as having people take the visible territorial manifestations as the sources of power. The first makes the sources of power prominent, whereas the second disguises them. When the two are combined they can lead to a *mystical view* of place or territory. This is what often happens, for example, in the Catholic Church. Catholicism reifies when it makes the distinction between the primary sources of power (i.e., faith and the church invisible) and the physical manifestations of these (i.e., the church visible). But Catholicism displaces when it has worshippers believe that the physical structures of the Church and its holy places emanate power. This is also what happens in nationalism. The territory is a physical manifestation of the state's authority, and yet allegiance to territory or homeland makes territory appear as a source of authority.

g. The territorial component in complex organizations can have a momentum of its own, on the one hand increasing the need for hierarchy and bureaucracy and on the other diminishing their effectiveness. This can come about when definition and enforcement by area (Nos. 1 and 3) lead (unintentionally) to the circumscription of the wrong area or the wrong scale and thus to a *mismatch of territory and process.* The mismatch may become aggravated by using the

territory as a mold (No. 8). Mismatch would diminish the organization's effectiveness; but because knowledge and responsibility within the organization are unequally shared, responsibility for rectifying the problem may fall to the existing hierarchy and thus entrench and increase the role of bureaucracy.

h. Displacement (No. 5), in conjunction with impersonality (No. 6) and territorial multiplication (No. 10), makes it easier for the *territory* to appear to be the *end rather than the means* of control. An example of this is the "people versus place" issue that arises when municipalities rather than people receive federal funds (Edel 1980).

i. The territorial component can have a *momentum* of its own to *create inequalities.* Its facility in helping to establish differential access to things (No. 3) can become institutionalized in rank, privilege, and class.

j. The same tendencies that contribute to effective organization and bureaucracy, as discussed in *a*, could change their import by being used as a general means of *dividing and conquering* and of making the organization more entrenched and indispensible for the coordination of the parts. In the context of the workplace, the ten tendencies of territoriality can be used to "deskill" a workforce and create factory discipline (Edwards 1979; Katz 1978; Marglin 1974–5).

k. Classification (No. 1), enforcement (No. 3), and mold (No. 8) especially can be used (intentionally) to mismatch things to places and places to things yet *obscure the mismatch* by making people believe that the assignment of the particular tasks to the particular territories is indeed appropriate. An example of this would be assigning major responsibility for funding pollution abatement to local levels of government (Dear 1981).

l. Displacement (No. 5), impersonal relations (No. 6), and engendering territory (No. 10) could *direct attention away from causes of social conflict to conflicts among territories* themselves. Examples of this can be seen in attention given the urban crises and the conflicts between the inner city versus the suburbs and the Snowbelt versus the Sunbelt rather than to social-economic relationships causing the conflicts.

m. Molding (No. 8) the geography of actions at various scales, coupled with assigning long- and short-range planning responsibilities to corresponding levels of the hierarchy (Nos. 3 and 8 or *b*), gives organizations the opportunity to *obfuscate the geographic impact of an event.* Either the geographic impact is not clear at one or more of the crucial levels or a decision is divided into parts, so that the initiation of an action (that may be irreversible) is considered in the context of the largest territory and the implementation of the action is left later to the smaller territories (Pressman and Wildavsky 1973; Vernez 1980). A combination of the two could be our national policy regarding nuclear power. We can have a national goal to have 20 percent of our electricity generated by nuclear power. This goal would pertain to the nation as a whole and could be well under way before the decisions to locate the plants are made at the local levels and before the decisions to dispose of waste are even contemplated.

n. The same tendencies that could help to make hierarchical organizational control effective (Nos. 1, 2, 3, 6, and 8 or *a* and *j*) could backfire, leading instead to a *reduction of control* and even to *secession.* Dividing, conquering, deskilling, and making relationships impersonal may be nullified or offset by the potentials they have of creating *disorganization*, *alienation*, and *hostility.* In some cases the assembly line went too far in circumscribing and deskilling (Edwards 1979). Workers have reacted to senseless assignments and to alienation with various degrees of resistance, and industry has recently begun to explore new kinds of organizations aimed at decreasing the territorial circumscription of workers at the lower levels of the hierarchy (Aguren 1976; Emery and Thorsrud 1969; Hackman and Oldham 1980; Pugh and Payne 1977). Moreover, those who resist cir-

cumscription can make use of the existing territories in various ways, as when prisoners literally take possession of cells and cell blocks, or as when political units secede. In such cases we would hypothesize that the reasons for employing territory would come from among the ten.

Internal Structure of the Theory

The explicit interrelationships among the tendencies and combinations provide a description of the theory's internal structure. The previous discussion points to the most obvious links. The matrix in Figure 1 along with the preceding descriptions of the combinations, makes it clear that some of the combinations use exactly the same tendencies as do others, but differ in the weights assigned to them and in the emphasis placed on their connotations and normative meanings. For example, hierarchy, *a*, and divide and conquer *j*, and secession, *n*, all employ tendencies (Nos. 1, 2, 3, 6, and 8) but they do so with different imports. Hierarchy and bureaucracy, *a*, can be thought of either as a benevolent or neutral organization using territory. Divide and conquer, *j*, emphasizes the negative aspects of Nos. 1, 2, 3, 6, and 8 and describes a malevolent organization wherein *x* uses territoriality to disadvantage *y*. Secession, *n*, describes the condition wherein *y* uses territorial tendencies (Nos. 1, 2, 3, 6, and 8) to lessen or remove the authority of *x*. Similarly, obfuscation by assigning the wrong scale of territory, *k*, is the malevolent side of mismatch and spillover, *g*. Social conflict obscured by territorial conflict is the negative side of territoriality as an end, *h*. Obfuscation by stages (in terms of time and scale), *m*, is the negative side of long- and short-range planning, *b*; inequalities, *l*, is the negative side of efficient supervision—span of control, *d*.

The matrix also points to dynamic relationships among the combinations and to likely links or paths among them. Overall, there is the suggestion that territoriality can help to further the goals of either a benign, neutral, or a malevolent organization by increasing the organization's authority and control up to a point. Then, some of the combinations formerly helping to intensify the need for hierarchy (like mismatch and spillover, *g*, and territoriality as an end, *h*) may combine to obstruct the efficiency of the organization and lead to decreased control over, or secession of, its parts.

Figure 2 is a more detailed description of some of the likely flows from the consequences of territoriality. This diagram begins with the assumption (illustrated by the path to *a*) that the original goals were benign or neutral and that the institution draws from among the tendencies of territoriality to increase its hierarchical control. If combinations *d* and *b* are emphasized by the organization, combinations *i* and *m* would have to be reckoned with. Even without emphasizing *d* and *b*, the use of territorial hierarchy could lead to combinations *g* and *h*. These can either help create the need for more hierarchy and territoriality and thus form a positive feedback loop to the path to *a*, or they can lead to inefficiencies and negative feedback, and eventually to *n*. Moreoever *g* and *h* can come to be employed intentionally to disguise the sources of power and thus subvert the goals of the institution (by forming *k* and *l*) from benevolent or neutral, *a*, to malevolent, *j*.

The dynamic interrelationships among the combinations stem from their normative implications. These were intentionally characterized in very general and abstract terms and without regard to any particular theory of power so that the effects of territoriality would not be captured by any particular ideological position or theory of organization. (The description of the combinations as malevolent, neutral, or benign is hardly part of a theory of power, and the idea of the link between territoriality and bureaucracy, although using Weber's definition of the latter, does not commit the theory of territoriality to other parts of Weber's analysis.)

Empirical Contexts, Predictions, and Tests: At the Level of Formal Organizations

Keeping the ethical connotations abstract makes it possible to match territoriality with more than one view of power and organization. There are in fact many such views. Some focus on the major forces within an entire so-

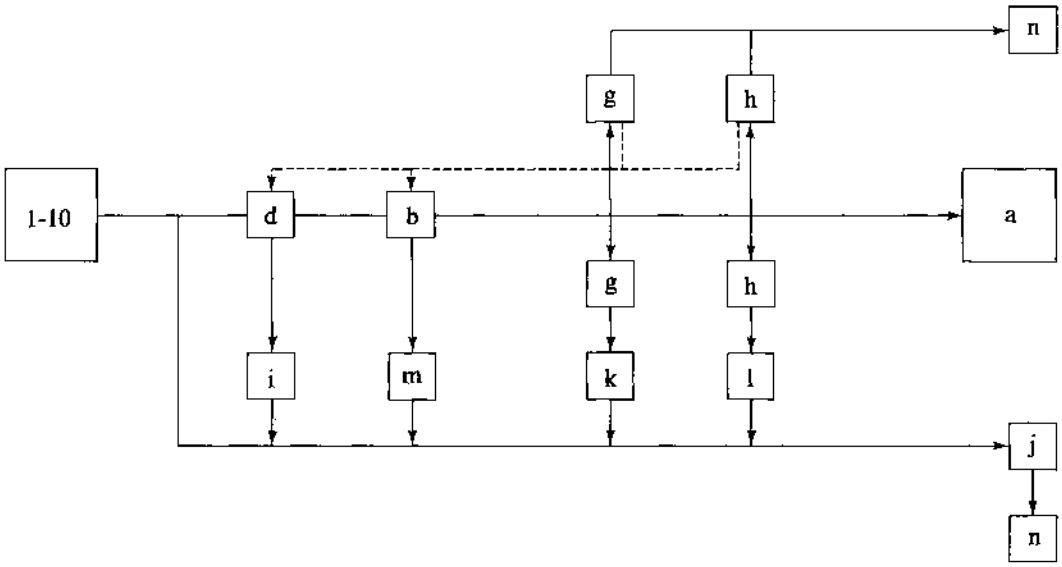

Figure 2. Internal flows.

ciety and others on the forces within different types of organizations of less comprehensive scope (Scott 1981). It would be important to consider which theories of organization and power would have more or less in common with the tendencies and combinations of territoriality and why. At this point it is clear that some have more in common with territoriality than do others and that two—Weber's and Marx's—are especially fruitful.

Two facets to Weber's work have a bearing on our discussion. The first considers the internal dynamics of organizations and especially of bureaucracies, and the second addresses the historical-social context in which certain organizations are more or less likely to occur.

Taking the second first, we note that Weber (1947) refers to three general or ideal types of organizations: charismatic, traditional, and bureaucratic. The first is not necessarily linked to any period or type of society. The followers and leaders form a loose organization. There are few if any officers, rules of procedure, and clear hierarchies. But as the group persists and especially as the question of succession arises, charisma becomes routinized. It gives way to one or the other of the two more formal types of organizations: the traditional or the bureaucratic.

As the name implies, traditional organizations rely on traditional modes of conduct and problem solving. The leadership is drawn from a specific clan, family, or circle of friends. Justification for authority is based on custom. Hierarchy is not well structured and a person's ability and personality may change the power and scope of his or her appointment. Legitimacy of authority is not drawn from holding an office proper but from being connected to traditional positions of leadership. Traditional organizations occur primarily in "traditional" societies. These include primitive, oriental, and feudal societies. Hence the routinization of charisma in these kinds of societies will lead to traditional organizations.

The bureaucratic form of organization is most closely linked to, and characteristic of, highly complex, economically integrated societies. These are modern societies and include capitalistic and socialistic economies. Bureaucracies, as noted in the discussion of combination *a*, are characterized by (among other things) formal lines of communication, clear hierarchy and definitions of authority, and impersonal relations. The routinization of charisma in modern society would normally lead to bureaucracy.

Little modification has been made to the historical facet of Weber's formulation. Rather it is to the first facet, the processes

within organizations and bureaucracies, that his followers have made the most amendments. Weber saw the bureaucratic form as potentially the most rational and efficient. He recognized some of its negative features such as its tendency to make relationships too uniform and impersonal, which could cause the organization to dissolve or split apart and could create opportunities for charismatic leaders to form new ones. But he was most impressed with bureaucracy's positive potential of rationality and efficiency. Overall he presented the bureaucracy as a neutral instrument with the potential to do good.

Bureaucracy's negative side was investigated and elaborated more fully by Weber's successors, especially Michels and Merton. Michels (1949) examined German socialist organizations and found that despite their idealistic and egalitarian beginnings, these organizations became increasingly institutionalized, authoritarian, and hierarchically rigid and the officials became more interested in perpetuating themselves and their offices than in their commitment to the original goals of the organization. This trend he attributed to bureaucracies in general and called it the "iron law of oligarchy." Merton (1957) pointed to another malevolent side to bureaucracy. An emphasis on strict formal procedures, discipline, and rules leaves officials with the view that adherence to formal procedures is an end in itself. This Merton called "displacement."

Many other studies of bureaucracy's problems exist and their collective import is that although Weber's characterization was not wrong, there is more than he observed to the internal dynamics of bureaucracies that often leads them away from efficiency and benign or neutral purposes. Most importantly, these studies recognize the same dynamic qualities and end states of bureaucracy that are discussed in our theory. Careful comparison of them with our theory can help to specify the conditions in each. For example, we would expect that if, and to the degree that, an organization were territorial, the displacement Merton refers to and the displacement in territoriality would both increase and be mutually reinforcing for overlapping reasons.

An historical dimension can be added by considering the connection between our theory and Weber's discussion of traditional and modern societies. If we assume Weber's distinctions between traditional societies (including primitive, oriental, and feudal societies) and traditional organizations on the one hand and highly complex integrated modern societies (both capitalist and socialist) and bureaucracy on the other, then we would have grounds to expect that when traditional societies are territorial, their reasons are not based on the tendencies and combinations that have most to do with bureaucracy. Thus we would expect impersonality, No. 6, territorial definition of social relations, *c*, and span of control, *d*, not to be related to territorial use in traditional societies and to be positively related to territorial use in modern societies.

Furthermore, we would expect the reasons for, or effects of, territoriality in traditional society to cluster around classification, No. 1, communication, No. 2, enforcement, No. 3, reification, No. 4, and displacement, No. 5 (especially in a magical context, *f*) and to involve combinations such as divide and conquer, *j*, territoriality as an end rather than a means, *h*, and territorial inequality, *i*. There could of course be cases in which traditional or premodern societies employed bureaucracies, as in the Chinese Mandarin system of elected officials and the English feudal system of king's courts. In such cases we would predict that if territoriality were used by the bureaucracy, it would be for reasons such as impersonality, No. 6, and territorial definition of social relations, *c*. An indication of the use of territoriality for impersonality, No. 6, would be if these organizations rotated their officials from one territory to another, or at least assigned an official to a region other than that person's native one. An indication of territorial definition of social relations, *c*, would be if the administrative units were not the same as pre-existing social-territorial ones.

The second major theory of power that could be linked fruitfully with territoriality is Marxism. Unlike Weber, Marx did not examine the possibility of bureaucratic dynamics as an independent phenomenon. His writings consider bureaucracy as an institution to be manipulated by class power. The twists and turns of bureaucracy were based on the development of economic classes and their interrelationships. Once communism removes class conflict, the state, as the primary op-

pressor, would wither away. Marx did not address himself to whether other forms of organizations would wither away within the state, but recently Marxists have recognized that bureaucratization is a force to be reckoned with in socialist countries, if not in the Utopian world of communism. The Soviet bureaucracies have internal dynamics and contradictions of their own. The oligarchical tendencies of government bureaucracy, for instance, can create the equivalent of class structure and interests. Yet their precise imports and dynamics are altered by their social-historical contexts (Konrad and Szelenyi 1979). This literature then could add further specifications to the directions and imports of the dynamics within bureaucracy.

More important is that Marxists' theory of class conflict in capitalism, when applied to territoriality, would single out the obfuscatory combinations of territoriality (*k*, *l*, and *m*) as the most important in the later stages of capitalism (Clark 1981; Newton 1978; Walker and Heiman 1981). The obfuscatory combinations would be expected because of the general tendency of capitalism to disguise class conflict and because of the peculiar position of the state vis-à-vis labor and capital. On the one hand the state tries to maintain capitalism, and on the other it must contain or reduce class conflict, claiming to be the champion of the people and a vehicle for providing social needs. This dual role means that the sources and forms of power must often be disguised and the obfuscatory tendencies of territoriality could help do this. Territorial obfuscation need not be applied only at the state or local-state level. It could appear as well in the workplace, the school, and in the realms of consumption.

Marxist theory, in conjunction with a general analysis of modernity, points to the present and the recent past as the times to expect the most intense and frequent occurrence of conceptual separation and recombination of substance and territoriality, *e*. This is because capitalism reinforces the view of space as a framework for the location and distribution of events. Capitalism helps make place into commodities. It makes us see the earth's surface as a spatial framework in which events are contingently and temporally located. Capitalism's need for capital accumulation and growth makes change paramount and, geographically, change means a fluid relationship between things and space. The future is conceived of, and future actions produce, continual alterations of geographical relationships. Territoriality then becomes the mold for both filling space and defining and holding a space empty.

Whereas Marxist theory is not clear enough about precapitalist modes to help us decide whether territoriality would be used differently in feudalism than in the Oriental or Asiatic mode, Weber said both kinds of traditional societies have occasional examples of bureaucracies. He suggested, however, that European feudalism may have had more bureaucracies; and Wittfogel (1957), claiming to build upon Marx, argued that bureaucracy characterized the Asiatic-despotic mode.

Marx and Engles did characterize the primitive mode as essentially different from other precapitalist modes, so that we would expect its use of territoriality to be distinct. To them, the primitive means small-scale egalitarian society with few if any institutions of oppression. Hence its use of territoriality would be quite different from that found in class societies, whether precapitalist or capitalist. For instance, in primitive society one would not expect to find frequent or intense use of territoriality for impersonal relations (No. 6), mold (No. 8), conceptually empty space (No. 9), or multiplication of territories (No. 10), and one would not expect to find most of the combinations, especially territorial definition of social relationships, *c*.

There is more that could be said about the links between the theory of territoriality and Weberian, Marxist, or other theories of power and organization. More specific connections could be made, and these could be tested in concrete historical cases. But this discussion was intended only to illustrate the point that the theory of territoriality can be joined to different theories of power and can lead to different expectations about which tendencies will arise and under what occasions.

Keeping the formulation of the theory of territoriality neutral and apart from any one of these theories of power has allowed us to link it with several. This is especially important because none of them is all encompassing (Weberian analysis anticipates things that Marxist analysis does not and vice versa) and none of them is completely correct. Figure 3

Present Day Socialist	Modern Capitalist	Feudal	Class (Oriental-Asiatic)	Classless-Primitive		
X	X	X	X	X	1	Classification
X	X	X	X	X	2	Communication
X	X	X	X	X	3	Enforcement of access
X	X	X	X	X	4	Reification symbol
X	X	X	X	X	5	Displacement
X	X	X	X	O	6	Impersonal relations
X	X	X	X	O	7	Neutral space-clearing
X	X	X	X	O	8	Mold
X	X	X	X	O	9	Conceptually empty space
X	X	X	X	O	10	Multiplication of territories
X	X	We	Wi	O	a	Hierarchy and bureaucracy
X	X	X	X	O	j	Divide and conquer
X	X	X	X	O	n	Secession
X	X	We	Wi	O	c	Territorial definition of social relations
X	X	X	X	O	g	Mismatch and spillover
?	Ma	O	O	O	k	Obfuscation by assigning wrong scale territory
X	X	X	X	O	h	Territoriality, an end, not a means
?	Ma	O	O	O	l	Social conflict obscured by territorial conflict-horizontal displ.
X	X	We	Wi	O	b	Long and short range planning and stages
?	Ma	O	O	O	m	Obfuscation by stages. Clear at nat. level, unclear at local
X	X	We	Wi	O	d	Efficient supervision-span of control
X	X	X	X	O	i	Inequalities
X	X	X	X	X	f	Magic-representation becomes powerful in itself
Th	Th	O	O	O	e	Conceptual separation and recombination of space and substance

X = General agreement that the tendency or combinations is significant
O = General agreement that the tendency or combinations is insignificant
Wi = Significant in Wittfogel's view as interpreted by theory
We = Significant in Weberian's view as interpreted by theory
Ma = Significant in Marxian's view as interpreted by theory
Th = Significant from perspective of theory

Figure 3. Historical predictions.

summarizes the predictions derived from connecting the theory of territoriality to Wittfogelian, Weberian, and Marxist analysis and to a general knowledge of history. Figure 3 is only suggestive. It is intended to point to the utility of joining territoriality to other theories. Different ones could have been selected and the same theories could have been explored at different social scales.

Testing the theory of territoriality does not always require connecting it to grand theories of power. A case in point is the use of the simple yet important combination *d*—efficiency of supervision/span of control. Span of control in the sociological literature refers to the ratio of supervisors to supervisees (usually at a given level within an hierarchical organization, although it could represent aggregation for all levels) and is used as an index of supervisory efficiency.[4]

From the theory of territoriality we would predict that, everything else being equal, the greater the territorial circumspection of supervisees, the fewer the supervisors, up to a point (e.g., when resistance or secession, *n*, could occur). For example, guarding convicts who are in prison (and thereby territorially circumscribed) is easier (requires fewer supervisors) than guarding convicts who are allowed to roam at will. The theory also points in very general terms to some (though by no means all) of the circumstances under which this association will most closely come to the fore. It will be recalled that territoriality is an extension of action by contact, and its suitability depends, among other things, on the available channels and forms of communication. If only one kind of contact were to be available (such as face-to-face contact) or if no other kind were to be substituted, we would expect an extremely strong positive association between degrees of territoriality and span of control. In the convict example this would mean that the guards would use the same form of surveillance and supervision—namely person-to-person, face-to-face, direct contact, whether the prisoners were confined or not. More generally, the theory would predict that if no substitutions in the form of surveillance or supervision (excluding changes in supervisory skill) are made, then as territoriality increases, so too does the span of control and conversely. But if alternative forms of contacts and levels of skill are available for substitution, these may be employed either instead of or in conjunction with changes in the span of control as adjustments to changes in degrees of territoriality. At present, the theory cannot predict what the mix will be.

To the best of my knowledge there do not appear to be any institutions that do not have the option of responding to a change in territorial organization by substituting one form of communication or skill for another. (Society can respond to the release of large numbers of convicts from prisons by increasing the number of police and/or by less direct forms of surveillance and control.) Our best hope, then, of testing the association of territoriality and span of control is to find instances of institutions in which the alternatives are few and easily identifiable. Examples might be found in comparisons among types of office management, factory-floor layouts, and work stations and in comparisons between open and closed classrooms. But it appears thus far that the institution having the fewest and most readily identifiable organizational alternatives is the military. This is the institution I shall use to test the association.

A Formal Organization: United States Army

Evidence for the U.S. Army comes from its published manuals describing the ideal composition of army units and their goals (Department of Army 1972, 1976). Current data on the actual composition of units are not available, and even if they were they would be vast and vary from day to day, so it is convenient to use manuals describing the Army's own goals and norms. These manuals influence behavior. They are distributed to troops and are used in strategic calculations. As anyone even slightly acquainted with Army life can attest, the Army follows the "manual" and the rules are as uniform and inflexible as can be. Differences in the manuals' description of the composition of the units, no matter how slight, are significant because it goes against the Army's grain to alter anything.

The manuals give a comprehensive list and description of the numbers of soldiers, their individual and collective job descriptions and objectives, the chain of command, and the equipment that is supposed to be present for the different military units from platoon to di-

vision. In order to limit the variables as much as possible I shall concentrate only on three fighting units and on their lowest levels: the Infantry, the Airborne Rangers, and the Special Forces or Green Berets. Their degrees of territoriality are found in descriptions of their missions. Their spans of control are simply the numbers of officers per men at each level in the hierarchy; channels of communication and skills are measured by the amount of communication equipment per unit and the ranks of the officers respectively.

Located along a continuum that extends from very territorial to slightly territorial or nonterritorial, we have respectively the Infantry platoon, which has as one of its principle objectives the "maintenance and security of terrain"; the airborne Rangers, whose principle objective is scouting and whose only territorial function is "the securing of target objectives" (a smaller-scale territory to be held for a brief period of time); and the Special Forces or Green Berets, whose objective is unconventional warfare (i.e., "operations which include but are not limited to guerilla warfare, evasion and escape, subversion and sabotage, conducted during periods of peace and war in hostile or politically sensitive territory," which does not include the holding of territory at any scale (Department of Army 1976)).

In other words, the objectives of the Infantry are most stationary and can be approached territorially, and the objectives of the Green Berets are least stationary and cannot be approached territorially. (There may be other nonterritorial differences in their objectives, but what they are is not readily apparent.)[5] From our theory we would expect that, everything else being equal, the more territorial is the objective, either or both the greater will be the span of control and the less will be the need for communication and varied skills. Conversely, if the objective becomes less territorial, then there will be either or both an increase in communication and skill and a decrease in span of control. (We cannot yet predict which one or in what proportions.)

The Army's description of its own organization conforms to our expectations. The ideal or complete units had the following compositions (Department of Army 1972, 1976).

The most territorial, the infantry battalion, had:

at the level of rifle company,
6 officers (of whom 1 was a captain), and 165 enlisted men;
at the level of rifle platoon,
1 officer (a lieutenant) and 43 enlisted men;
and at the level of rifle squad,
0 officers and 10 enlisted men with the following ranks:
1 SSG, 2 SGT, 4 SPA, and 3 PFC;
also at the squad level were two pieces of radio equipment.

The intermediate group territorially, the airborne Rangers, had:

at the company level,
8 officers (of whom 2 were captains), and 208 enlisted men;
at the level of platoon,
3 officers (all lieutenants) and 129 enlisted men;
and at the patrol level,
0 officers and 5 enlisted men with the following ranks:
1 SSG, 1 SGT, 2 SPA, and 1 PFC;
also each patrol had three pieces of radio equipment.

For the Green Berets, the least territorial, the units are called detachments and are usually of three types: "A," "B," and "C."

"*A*" detachment is the basic operational unit and has 2 officers (a captain and a lieutenant) and 10 enlisted men, all of whom are sergeants of various ranks. "*B*" detachment is a mall command unit and has 2 officers (a major and a captain) and 3 enlisted men, all of various ranks of sergeant. "*C*" detachment has 7 officers (1 lieutenant colonel, 2 majors, and 3 captains) and 15 enlisted men, all of various ranks of sergeant. There is no list of standard equipment for these units. Their needs vary per mission and in general they will have little communication equipment, for the preferred form of contact among themselves is face to face.

From these data, we can see that the Army, albeit reluctantly, conforms to our predictions. It alters its requirements for span of control, forms of communication, and skills of its men as the degree of territoriality of the mission changes. The Infantry units have a high span of control, the least number of higher-ranking officers per troops and the greatest number of Pfc's. The Ranger Company has a greater number of sergeants per Pfc's at the platoon level and one more captain per company than the Infantry. Also, Rangers are divided into smaller units—the patrols—and have more radio equipment. (If

they did not, one would expect a lower span of control.) The Special Forces or Green Berets have a remarkably higher proportion of officers to enlisted men, and all the enlisted men have the rank of sergeant or above. (If there were more radio equipment per person, one might expect a slightly greater span of control.)

Empirical Contexts, Predictions, and Tests at the Individual Level

I discuss the implications of the theory in social organizations first because they would employ the combinations as well as the tendencies and because they involve the scale of activities that geographers customarily examine. I now briefly consider some of the implications of the tendencies at the level of individuals. For this level the psychological literature rather than the socioeconomic literature could serve to specify important contexts for the use of territorial tendencies. Because there are as many situations that could be used to specify or test the theory at the individual level as there are at the organizational level and because the latter is the customary geographical level of analysis, my discussion of the individual level will be limited to two examples.

Consider once again the parent who is minding the children while working in the study. The parent used territoriality primarily because of its ease of communication (No. 2) and its classification by area, rather than by kind (No. 1). This could be an economical strategy if the objects to be "protected" are geographically containable and if the children are very young and cannot understand what would be meant by the parent singling out this or that kind of object as things not to touch. To determine more precisely if this is a plausible hypothesis, experiments could be conducted wherein parents are asked to restrict their children's access to objects variously distributed in space. The experimenter could also vary the objects, the children's ages, and other factors. The experiment could be made even more discerning if something about the parents' personalities and goals were included. For instance, some parents might believe that whereas it is easier to use territoriality on certain occasions, it is deceitful to do so. That is, the parent might believe that using the advantages of definition by area rather than by kind (No. 1) may make the children unaware of what it is they are not allowed to do, and this may run counter to the parent's philosophy of child-rearing. Therefore, the parent might recognize the economical advantages of territoriality but might find them outweighed by the disadvantages, in this case the deceit. If these kinds of parents could be preselected, we could then predict opposite effects of the same tendency.

Individuals in institutions could be used to examine the effects of the tendencies. For example, the shadow realm of "personal space" can be looked at territorially. A problem would be to consider the kind of person who would need or use a larger or smaller personal space. Suppose again that personal space, as an instance of territoriality, offers an efficient means of classifying and protecting oneself without disclosing what is being protected (Nos. 1 and 3). Therefore, it might be expected that people who have a weak sense of self would be less willing to mix physically with others, especially strangers or potential competitors, and hence would be more inclined to use territoriality to help ensure that they would not be approached, than would those who have a strong sense of self. This means that territoriality would help protect the more insecure without disclosing what it is that needs protecting.

To explore the relationships in a social context we could consider an elementary school classroom of which there are now two general kinds: open and closed rooms. The former would not make territorial organizations clear and important, whereas the latter would. From what has been said, we would expect that students who have a strong sense of self and who would therefore need territoriality less would feel more comfortable and function better in an open classroom, whereas those who do not have a strong self image would prefer to be and would function better in a closed classroom. In addition, from our theory we would expect that even if the teacher has cooperative children, the span of control would be less in an open than in a closed classroom. That is, the student-

teacher ratio would be lower for the former than for the latter.

Conclusion

In the two previous sections I have attempted to demonstrate some of the more evident implications of the theory. Its utility must await more thorough and varied tests.

Verifying the potentialities and combinations is a long-range project with the following objectives:

—taking many key cases to determine if the reasons for territorial as opposed to nonterritorial behavior are the ones identified;
—determining the precise conditions and circumstances in which territoriality becomes an advantage;
—determining whether there are conditions and circumstances in which territoriality is the primary or even necessary means of attaining these advantages;
—determining the degree to which such advantages (and hence territoriality as the means) are important to the organization.

Little work of this kind has been done (with the exception of Dyson-Hudson and Alden-Smith 1978) despite the fact that there are countless examples of territories in different historical contexts. The previous sections suggest two points of departure. One or two tendencies can be examined in the context of small-scale, informal groups for as many carefully selected cases as possible. This approach may even approximate laboratory conditions. For instance, minute experiments could be made to determine if and when territoriality is used by parents to control the activities of their children because of its tendency to classify by area (No. 1).

The other avenue would be to focus on the tendencies and combinations at the level of complex organizations. This may be the best strategy for exploratory studies because it would permit the selection of important organizations or institutions offering a range of territorial uses. This would make it possible to observe how most or all of the tendencies work together and at a "geographical" scale. Our previous discussions and Figures 2 and 3 suggest critical times and institutions to explore. For instance, there is the important distinction between primitive societies and technologically advanced civilizations and the expectation that territorial definition of social relations is characteristic of the latter. There is the possibility that territoriality is used differently in the Oriental or Asiatic type than in the feudal. There is the internal dynamic of bureaucratic organizations, which could be expected in socialist as well as capitalist states (and even in traditional societies if they have bureaucracies). And there are the obfuscatory roles of territoriality in advanced captialism and the effect of the conceptual separation and recombination of territoriality and substance that occur with capitalism and modernity.

Work on two critical contexts is already underway. The history of the Catholic church has been selected in order to explore the development and internal dynamics of territoriality in a bureaucratic organization spanning almost 2,000 years and several socioeconomic forms. Church council records and canons provide rich documentation about reasons for, and consequences of, the church's territorial organizations (e.g., parishes, dioceses, and archdioceses as well as the consecration and internal partitioning of holy places and churches). The development of the American political system has been chosen as an example of the role of political territorial units in a capitalist system. United States political history offers rich and abundant historical data on the role of territoriality in the divisions of power, in intergovernmental relations, and in the connection between citizen and government.

Other societies and periods, as well as smaller-scale organizations, could and should be selected. For example, the built environment and the internal architectural design of buildings can be studied in terms of their use of territoriality to establish differential access to and control of people and things. The tendencies and combinations of territoriality could be linked to studies of the factory, the prison, the asylum, and the school.

The subject is complex, and varied forms of evidence will be needed. These will include the political-economic facts of the time, contemporary documents and data, and major historical and philosophical interpretations of them. Often such philosophical interpretations contradict each other. In such cases there may be little hope of settling the issues by looking at the "facts." Even a wrong idea

can become an important social fact. Rather, contradictory interpretations can be used as evidence for the theory of territoriality by finding out if they draw from the tendencies and combinations in expected ways. If they do, we can be more confident that the theory's tendencies and combinations do outline the domain of causes and effects of territoriality.

The precise wordings of the tendencies and combinations are not expected to be found in these documents, interpretations, and theories. Rather, we might expect the evidence to be undistorted, or even made clearer, if references to territoriality are rephrased in terms of the theory. Nor is territoriality expected to be the most important factor in the actual events or in the theories about them. Rather, we expect that when territoriality is used, it is used for reasons that draw from among the ones we suggested; and if competing philosophies and viewpoints about the events reveal this, then our case is strengthened.

Finally, it must be borne in mind that territoriality in human behavior is only a strategy for access and control. Geographically, it is one of two possibilities. The other is nonterritorial access and control. Both are based on the principles of action by direct or indirect contact. Territoriality is an extension and elaboration of this principle but requires action by contact in the form of nonterritoriality to back it up. This reciprocal relationship means that one part cannot be understood without knowing the other. Spatial analysis has concentrated on nonterritorial activity, neglecting territoriality by confining it to an unspecified context. Neglecting territoriality weakens our understanding of nonterritorial activity. It leaves unexamined many if not most of the geographic forces molding human spatial organization.

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Notes

1. The definition of territoriality at this point is clear enough to distinguish territorial from nonterritorial behavior in most cases. The possibility of a few borderline cases should not present major problems.
2. Assertion of control includes defense of area but is not only that, for it is more than a reactive position. Assertion of control includes influencing or affecting, but it connotes a sense of punishment or retribution for transgression.
3. Our discussion of territoriality is in some respects analogous to the chemical theory of valency and the periodic table. If we think of territoriality as an atom, its definitional attributes describe its nucleus, from which are entailed the ten primary and fourteen combinations of valences. These are the mechanisms that will bind territoriality to other elements. The general social context we are using to describe the theory (that is, our statement that the relationship between *x* and *y* can be neutral, benign, or malevolent) points to possible elements with which territoriality can combine and also to the valences that would be used. Connecting the theory of territoriality to more explicit and developed social theories and theories of power would further specify likely elements that can be linked to territoriality. These social theories of power would provide a periodic table the elements of which could be combined with territoriality to form compounds having predictable properties.
4. The sociological literature does not consider the territorial facet of organizations. Indeed, for a time sociologists have thought of span of control as an ideal or fixed entity (Haire 1964) rather than as a relationship whose effectiveness could vary with different contexts, including geographical ones.
5. The existence of other nonterritorial factors as part of the goals of these units could add "noise" to the territorial "signal" and would make this example less than perfect. Yet the territorial "signal" is loud enough and comparative studies may be able to remove the other "noise".

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